

## Subject Index

CS denotes centrespread illustration accompanying article  
CS\* denotes centrespread illustration only

## adhesion

bacteria in oligotrophic habitats 321

*Candida* spp. to host 243

adsorption, bacteria *News* 265, 266

AIDS update *News* 60, 61, 71, 72

and visna virus *News* 111

algae, virus phylogeny 181

American Type Culture Collection 367

ammonia movements in rhizobia 161

anaerobes, growth in air *News* 157

antibiotic pollution from fish farms 113

antibiotics, recombinant *News* 240, 241

## antibody production

cross reactivity *News* 168

yeast *News* 239, 240

antimycotics, present status 78, (CS) 80

aquatic microflora, fish farm pollution 113

archive material *IUMS News* 62

*Aspergillus nidulans* transformation 307

*Aspergillus niger* transformation *News* 201

## bacilli, extracellular enzymes 278

*Bacillus thuringiensis*, toxin and protein crystal *News* 296

## bacteria see also individual organisms

antagonism peptides 212

enteric, carbohydrate accumulation 330

historical enteric *News* 169

host defences 212

interstellar transport *News* 329

large plasmid genetics 184

nuclear division 235

tracking in soil and plants *News* 241

bacteriophage Mu *News* 199, 200

batch culture, microbial growth (CS\*) 16

biotechnology, IUMS role *IUMS News* 61, 62

## books reviewed

*Advances in Viral Oncology*, Volume 4 edited by Klein G 28

*Atlas of Human Parasitology* by Ash LR and Orihel TC 285

*Bergey's Manual of Systematic Bacteriology* edited by Krieg NR 118

*Changing Patterns of Infectious Disease* by Bergquist LM 318

*Clinical Parasitology* by Beaver PC, Jung RC and Cupp EW 286

*Current Clinical Topics in Infectious Diseases* (Volume 4) edited by Remington JR and Swartz MN 119

*Fundamentals of Medical Virology* by Kucera LS and Myrvik QN 375

*General Microbiology* edited by Boyd RF 76

*Manual of Acute Bacterial Infection* by Gardner P and Provine HT 118

*Microbiology for the Allied Health Professions* by Delaat ANC 318

*Oral Microbiology* by March PD and Martin MV 376

*Soil Biotechnology—Microbiological Factors in Crop Productivity* by Lynch JM 77

*The Sulphate-reducing Bacteria* by Postgate JR 28

## Viral Pathogenesis and Immunology by Mims CA and

White DO 178

*Borrelia* spp. 231

*Candida* spp.

host adhesion 243

molecular biology advances 257

carbohydrate accumulation, enteric bacteria 330

carbohydrate metabolism, plant pathogens 314

carbohydrate transport, energy coupling in *E. coli* (CS) 336

cell cycle control in yeast 139

## cell envelope

haloadaptation 345

proteins in *Klebsiella* spp. 148

*Chlamydomonas reinhardtii*, chloroplast maternal inheritance (CS) 272

## chloroplast DNA

active digestion 267

maternal inheritance mechanism 267, (CS) 272

chloroplast engineering *News* 295, 296

chromosome, bacterial *News* 7, 8

cold, common *News* 362

complement cascade (CS\*) 208

## continuous culture

*Escherichia coli* population and penicillins 25

microbial growth (CS\*) 16

Creutzfeldt-Jacob disease, prions 33

cryofixation techniques, fungi 225

## culture collection

American Type 367

World Federation *IUMS News* 248

culture techniques, novel 53

cytochrome a<sub>1</sub>, role in bacteria 21, 23

cytolysis, lymphocyte (CTL)-mediated (CS) 48, (CS) 304

*Cytophaga* spp., gliding motility 289

## dental caries vaccine 312

deoxyribonucleotides, synthetic and cloning *News* 240

## DNA

regulated rearrangements *News* 326, 327

strand discrimination *News* 110, 111

## electrobiology, fungal hyphae 363

## enzymes, bacilli

extracellular 278

synthesis and secretion 278

enzymes, effects of temperature in microbes 86

*Escherichia coli*

energy coupling to carbohydrate transport (CS\*) 336

penicillins and continuous culture 25

plasmid partitioning 299

shiga-like toxin *News* 60

## fish farms, antibiotic pollution 113

Freshwater Biological Association 282

## fungi

cloning of filamentous *News* 167

cryofixation of soil 225

hyphal electrophysiology 363

## Subject Index

CS denotes centrespread illustration accompanying article  
CS\* denotes centrespread illustration only

## adhesion

bacteria in oligotrophic habitats 321

*Candida* spp. to host 243

adsorption, bacteria *News* 265, 266

AIDS update *News* 60, 61, 71, 72

and visna virus *News* 111

algae, virus phylogeny 181

American Type Culture Collection 367

ammonia movements in rhizobia 161

anaerobes, growth in air *News* 157

antibiotic pollution from fish farms 113

antibiotics, recombinant *News* 240, 241

## antibody production

cross reactivity *News* 168

yeast *News* 239, 240

antimycotics, present status 78, (CS) 80

aquatic microflora, fish farm pollution 113

archive material *IUMS News* 62

*Aspergillus nidulans* transformation 307

*Aspergillus niger* transformation *News* 201

bacilli, extracellular enzymes 278

*Bacillus thuringiensis*, toxin and protein crystal *News* 296

bacteria *see also* individual organisms

antagonism peptides 212

enteric, carbohydrate accumulation 330

historical enteric *News* 169

host defences 212

interstellar transport *News* 329

large plasmid genetics 184

nuclear division 235

tracking in soil and plants *News* 241

bacteriophage Mu *News* 199, 200

batch culture, microbial growth (CS\*) 16

biotechnology, IUMS role *IUMS News* 61, 62

## books reviewed

*Advances in Viral Oncology*, Volume 4 edited by Klein G 28

*Atlas of Human Parasitology* by Ash LR and Orihel TC 285

*Bergey's Manual of Systematic Bacteriology* edited by Krieg NR 118

*Changing Patterns of Infectious Disease* by Bergquist LM 318

*Clinical Parasitology* by Beaver PC, Jung RC and Cupp EW 286

*Current Clinical Topics in Infectious Diseases* (Volume 4) edited by Remington JR and Swartz MN 119

*Fundamentals of Medical Virology* by Kucera LS and Myrvik QN 375

*General Microbiology* edited by Boyd RF 76

*Manual of Acute Bacterial Infection* by Gardner P and Provine HT 118

*Microbiology for the Allied Health Professions* by Delaat ANC 318

*Oral Microbiology* by March PD and Martin MV 376

*Soil Biotechnology—Microbiological Factors in Crop Productivity* by Lynch JM 77

*The Sulphate-reducing Bacteria* by Postgate JR 28

*Viral Pathogenesis and Immunology* by Mims CA and

White DO 178

*Borrelia* spp. 231

*Candida* spp.

host adhesion 243

molecular biology advances 257

carbohydrate accumulation, enteric bacteria 330

carbohydrate metabolism, plant pathogens 314

carbohydrate transport, energy coupling in *E. coli* (CS) 336

cell cycle control in yeast 139

## cell envelope

haloadaptation 345

proteins in *Klebsiella* spp. 148

*Chlamydomonas reinhardtii*, chloroplast maternal inheritance (CS) 272

## chloroplast DNA

active digestion 267

maternal inheritance mechanism 267, (CS) 272

chloroplast engineering *News* 295, 296

chromosome, bacterial *News* 7, 8

cold, common *News* 362

complement cascade (CS\*) 208

## continuous culture

*Escherichia coli* population and penicillins 25

microbial growth (CS\*) 16

Creutzfeldt-Jacob disease, prions 33

cryofixation techniques, fungi 225

## culture collection

American Type 367

World Federation *IUMS News* 248

culture techniques, novel 53

cytochrome a<sub>1</sub>, role in bacteria 21, 23

cytolysis, lymphocyte (CTL)-mediated (CS) 48, (CS) 304

*Cytophaga* spp., gliding motility 289

dental caries vaccine 312

deoxyribonucleotides, synthetic and cloning *News* 240

## DNA

regulated rearrangements *News* 326, 327

strand discrimination *News* 110, 111

electrobiology, fungal hyphae 363

## enzymes, bacilli

extracellular 278

synthesis and secretion 278

enzymes, effects of temperature in microbes 86

*Escherichia coli*

energy coupling to carbohydrate transport (CS\*) 336

penicillins and continuous culture 25

plasmid partitioning 299

shiga-like toxin *News* 60

fish farms, antibiotic pollution 113

Freshwater Biological Association 282

## fungi

cloning of filamentous *News* 167

cryofixation of soil 225

hyphal electrophysiology 363

## fungi continued

- infection structures 193
  - rusts 193
  - soil 225
  - virus phylogeny 181
- gene expression, cellular in vesicular stomatitis virus 152
- genetic analysis, toxin determinants 144
- genetic code, universal *News* 242
- genetic techniques in *Candida* spp. 257
- growth systems, novel 53
- haloadaptation 345
- hepatitis B, subunit, recombinant and synthetic vaccines 129
- immune system (CS\*) 208
- immunization, interspecific passive *News* 199
- infected cells, T lymphocyte killing 44
- infection
  - modulators 1
  - pre-operative prophylaxis 14
  - streptococcal human 174
  - structures, fungi 193
- influenza, subtypes and epidemics *News* 201, 202
- IUMS report 1984-85 *IUMS News* 247, 248
- IUMS, service to Third World *IUMS News* 24
- Klebsiella aerogenes*, cell envelope proteins 148
- Legionella* spp. in water systems 40
- leprosy
  - animal model *News* 156
  - cloned *News* 328, 329
- Lyme disease 231
- lymphocyte
  - CTL-mediated cytolysis (CS) 48, (CS\*) 304
  - T and infected cell killing 44
- malaria vaccine *News* 264, 265
- marine bacteria, Na<sup>+</sup>-motive respiratory chain 65
- maternal inheritance, chloroplast DNA mechanism 267
  - Chlamydomonas reinhardtii* (CS) 272
- meningitis and deafness *News* 73
- Microbe '86 *IUMS News* 112, 113
- microbiological parties *News* 198, 199
- mitochondria similarities *News* 158
- mitochondrial DNA, yeast *News* 71
- mitochondriogenesis studies 10
- motility, gliding in *Cytophaga* spp. 289
- Mycobacterium leprae*, animal models 156
- Na<sup>+</sup>-motive respiratory chain 65
- nitrogen fixation *News* 72, 73
  - cyanobacteria *News* 200, 201
- nuclear magnetic resonance (NMR)
  - microbiological applications 203, 340
- nuclear parasitism *News* 8
- nuclei, division in bacteria 235
- oligotrophic habitats, bacterial adhesion 321
- parasites, virus transfer *News* 9
- pentitols and *Escherichia coli* continuous culture 25
- peptides, bacterial cationic roles 212
- phosphotransferase system, phosphoenolpyruvate-dependent 330
- plant pathogens, carbohydrate metabolism 314
- plant pathogens, iron transport *News* 359, 360
- plant virus, RNA replication 170
- plasmids
  - genetics and evolution in bacteria 184
  - partitioning in *Escherichia coli* 299
  - survey of associated phenotypes 90
- predator defence development *News* 169
- prions 33
  - News* 297, 298
- prophylaxis, antimicrobial, pre-operative 14
- protein
  - cell envelope 148
  - engineering *in vivo* *News* 297
  - second generation fusion *News* 8, 9
  - secretion, biotechnology *News* 263, 264
- protein A fusion vectors *News* 241, 242
- replication, cytomegalovirus conditions 353
- reverse transcription *News* 202
- rhizobia, ammonia movements 143
- RNA
  - replication of plant virus 170
  - splicing of mRNA *News* 109, 110
  - vesicular stomatitis virus 152
- Rolux Awards for Enterprise 362
- Saccharomyces cerevisiae*, mitochondriogenesis study 10
- salt sensing 345
- scrapie prions 33
- sensor, oxygen 21
- Shigella* spp., molecular genetics of virulence 275
- shock syndrome regulation *News* 360, 361
- siderophores *News* 359
- streptococcal infections in humans 174
- Stuart Mudd award *News* 366
- sulphur oxidation and reduction, bacterial *News* 167, 168
- sulphur oxidation, pathogenic thiobacilli 105
- taxonomy, viral 74
- thiobacilli, physiology 105
- thymidine kinase 369
- tick-borne disease 231
- toxin determinants, Gram-positive analysis 144
- transformation
  - Aspergillus nidulans* 307
  - Aspergillus niger* *News* 201
- translation regulation, complementary RNA *News* 327, 328
- USA, Centers for Disease Control, priorities 220
- vaccines
  - dental caries 312
  - hepatitis B 129
  - malaria *News* 264, 265
  - varicella 249
- virulence and *Shigella* spp. 275
- virus *see also* plant virus
  - cold *News* 362
  - coronavirus *News* 359
  - cytomegalovirus replication, conditions 353
  - defective interfering and infection 1
  - DNA and immune response *News* 109
  - double exposure *News* 7
  - Epstein-Barr and malaria *News* 73
  - herpes latency model *News* 60
  - HTLV 97
  - human retrovirus 97
  - nomenclature 218

## virus continued

- origin and evolution in algae and bacteria 181
- RNA, vesicular stomatitis virus 152
- sludge recovery model *News* 9
- taxonomy 74, 75, 218

water systems, *Legionella* sp. distribution and persistence 40

yeast *see also Saccharomyces, Candida* spp.

- antibodies from *News* 239, 240
- cell cycle control 139
- cytoskeleton 139
- endocytosis *News* 296
- karyotype *News* 264
- species concept 122
- yellow fever *News* 326

## Author Index

- Arst Jr. HN,  
*Aspergillus niger* transformation *News* 201  
 deoxyoligonucleotides, synthetic and cloning *News* 240  
 fungi, cloning of filamentous *News* 167  
 yeast endocytosis *News* 296
- Asano Y, *see* Takahashi M
- Austin B, Antibiotic pollution from fish farms: effects on aquatic microflora 113
- Austin B, review of *Bergey's Manual of Systematic Bacteriology* edited by Krieg NR 118
- Baba K, *see* Takahashi M
- Baines BS, *see* Poole RK
- Barry RA, *see* Prusiner SB
- Baxter RL, Microbiological applications of NMR spectroscopy, Part 1 203
- Baxter RL, Microbiological applications of NMR spectroscopy, Part 2 340
- Bellinger CG, *see* Prusiner SB
- Berke G, How T lymphocytes kill infected cells 44, (CS) 48, (CS\*) 304
- Binns MM, Molecular genetics of virulence in *Shigella* 275
- Brown CM, An introduction to microbial growth in batch and continuous cultures (CS\*) 16
- Burns RG, review of *Soil Biotechnology—Microbiological Factors in Crop Productivity* by Lynch JM 77
- Caldwell JH, *see* Harold FM
- Chaloupka J, Temperature as a factor regulating the synthesis of microbial enzymes 86
- Colbourne JS & Dennis PJ, Distribution and persistence of *Legionella* in water systems 40
- Curtin ME,  
 AIDS and visna virus *News* 111  
 AIDS update *News* 60, 61, 71, 72  
 antibiotics, recombinant *News* 240, 241  
 antibody production, cross-reactivity *News* 168  
*Bacillus thuringiensis* toxin and protein crystal *News* 296  
 chloroplast engineering *News* 295, 296  
 cold, common *News* 362  
*Escherichia coli*, shiga-like toxin *News* 60  
 genetic code, universal *News* 242  
 immunization, interspecific passive *News* 199  
 influenza subtypes and epidemics *News* 201, 202  
 leprosy, animal model *News* 156  
   cloned *News* 328, 329  
 meningitis and deafness *News* 73  
 mitochondria similarities *News* 158  
 mitochondrial DNA, yeast *News* 71
- nitrogen fixation *News* 72, 73  
   cyanobacteria *News* 200, 201
- nuclear parasitism *News* 8
- parasites, virus transfer *News* 9
- predator defence development *News* 169
- prion *News* 297, 298
- protein A infusion vectors *News* 241, 242
- protein, second generation fusion *News* 8, 9
- reverse transcription *News* 202
- mRNA splicing *News* 109, 110
- vaccine, malaria *News* 264, 265
- virus  
   coronavirus *News* 359  
   DNA and immune response *News* 109  
   double exposure *News* 7  
   Epstein-Barr and malaria *News* 73  
   herpes latency model *News* 60  
   sludge recovery *News* 9  
   yeast karyotype *News* 264  
   yellow fever *News* 326
- DeArmond SJ, *see* Prusiner SB
- Dennis PJ, *see* Colbourne JS
- Dilworth MJ, *see* Glenn AR
- Dimmock NJ, Defective interfering viruses: modulators of infection 1
- Dougan G & Fairweather N, Genetic analysis of Gram-positive toxin determinants: the impact of new technologies 144
- Douglas LJ, Adhesion of pathogenic *Candida* species to host surfaces 243
- Doyle G, *see* Everhart DL
- Epstein L, *see* Staples RC
- Essien JDK, *see* Mason JO
- Everhart DL, Mallet CP & Doyle G, Dental caries vaccine: some problems solved? 312
- Fairweather N, *see* Dougan G
- Fantin DJ, *see* Trivedi A
- Farrar JF, Carbohydrate metabolism in biotrophic plant pathogens 314
- Forsyth JRL, review of *Atlas of Human Parasitology* by Ash LR and Orihel TC 285
- Forsyth JRL, review of *Clinical Parasitology* by Beaver PC, Jung RC and Cupp EW 286
- Gallo RC & Reitz Jr. MS, The first human retroviruses: are there others? 97

- Gerhardt P, IUMS role in biotechnology *IUMS News* 61, 62  
 Glenn AR & Dilworth MJ, Ammonia movements in rhizobia 161  
 Glover SW  
   IUMS report 1984-85 *IUMS News* 247  
   IUMS, service to Third World *IUMS News* 24  
   World Federation for Culture Collections *IUMS News* 248  
 Gowland PC, *see* Hardman DJ
- Hardman DJ & Gowland PC, Large plasmids in bacteria. Part 1. A survey of associated phenotypes 90  
 Hardman DJ & Gowland PC, Large plasmids in bacteria. Part 2. Genetics and evolution 184  
 Harold FM, Schreurs WJ, Harold RL & Caldwell JH, Electrobiology of fungal hyphae 363  
 Harold RL, *see* Harold FM  
 Hašek J, *see* Streiblová E  
 Hatano M, *see* Tanaka J  
 Hoch HC, *see* Staples RC  
 Hughes WT, review of *Changing Patterns of Infectious Disease* by Bergquist LM 318
- James K, The immune system (CS\*) 208  
 Johnstone IL, Transformation of *Aspergillus nidulans* 307  
 Jones D & McHardy WJ, Cryofixation techniques with special reference to soil fungi 225  
 Jones JG, Microbiology at the Freshwater Biological Association 282
- Kamiya H, *see* Takahashi M  
 Keene JD, Interactions between small viral RNAs of vesicular stomatitis virus and components of cellular gene expression 152  
 Keevil CW 23  
 Kelly DP, Physiology of the thiobacilli: elucidating the sulphur oxidation pathway 105  
 Kerridge D, Present status of antimycotics 78, (CS) 80  
 Kingsbury DT, *see* Prusiner SB  
 Kit S, Thymidine kinase 369  
 Kogut M, *see* Russell NJ  
 Kuroiwa T, *Chlamydomonas reinhardtii*: life cycle and maternal inheritance (CS) 272  
 Kuroiwa T, Mechanisms of maternal inheritance of chloroplast DNA: an active digestion hypothesis 267  
 Kyslík P, *see* Sikyá B
- Lachance M-A, Current views on the yeast species 122
- McHardy WJ, *see* Jones D  
 McKinley MP, *see* Prusiner SB  
 Mahy BWJ, review of *Viral Pathogenesis and Immunology* by Mims CA & White DO 178  
 Mallett CP, *see* Everhart DL  
 Mann NH, Plasmid partitioning in *Escherichia coli* 299  
 Marshall KC, Bacterial adhesion in oligotrophic habitats 321  
 Mason JO & Essien JDK, The USA Centers for Disease Control: current priorities 220  
 Matthews REF, Viral taxonomy 74  
 Meyer RK, *see* Prusiner SB  
 Milne RG, Viral taxonomy 75  
 Mitchell WJ, Energy coupling to carbohydrate transport in *Escherichia coli* (CS) 336  
 Mitchell WJ, The phosphoenolpyruvate-dependent phosphotransferase system: a central feature of carbohydrate accumulation by enteric bacteria 330  
 Moseley BEB  
   anaerobe growth in air *News* 157  
   bacteria
- historical enteric *News* 169  
 interstellar transport *News* 329  
 tracking in soil and plants *News* 241  
 chromosome, bacterial *News* 7, 8  
 DNA strand discrimination *News* 110, 111  
 microbiological parties *News* 198, 199  
 protein engineering *in vivo News* 297  
 sulphur oxidation and reduction, bacterial *News* 167, 168  
 Murant AF, Taxonomy and nomenclature of viruses 218
- Ng ML, Meeting Report: Singapore Society for Microbiology *IUMS News* 366
- Old DC, review of *Manual of Acute Bacterial Infections* by Gardner P and Provine HT 118  
 Ostertag W, review of *Advances in Viral Oncology*, Volume 4 edited by Klein G, 28
- Pate JL, Gliding motility in *Cytophaga* 289  
 Pattison JR, review of *Current Clinical Topics in Infectious Diseases* edited by Remington JR & Swartz MN 119  
 Poole RK, Baines BS & Williams HD, Sensor sensationalism? Alternative views on the nature and role of 'cytochrome a<sub>1</sub>' in bacteria 21  
 Priest FG, Synthesis and secretion of extracellular enzymes by bacilli 278  
 Prusiner SB, Barry RA, McKinley MP, Bellinger CG, Meyer RK, DeArmond SJ & Kingsbury DT, Scrapie and Creutzfeldt Jacob disease prions 33  
 Pugsley, AP  
   adsorption, bacterial *News* 265, 266  
   antibody production in yeast *News* 239, 240  
   bacteriophage Mu *News* 199, 200  
   DNA regulated rearrangements *News* 326, 327  
   plant pathogens, iron transport *News* 359, 360  
   protein secretion, biotechnology *News* 263, 264  
   shock syndrome regulation *News* 360, 361  
   siderophores *News* 359  
   translation regulation, complementary RNA *News* 327, 328
- Reitz Jr. MS, *see* Gallo RC  
 Riggsby WS, Some recent developments in the molecular biology of medically important *Candida* 257  
 Rogosa M, review of *Oral Microbiology* by March PD and Martin MV 376  
 Ross PW, Streptococcal infections in man 174  
 Russell NJ & Kogut M, Haloadaptation: salt sensing and cell-envelope changes 345
- Sahl H-G, Bactericidal cationic peptides involved in bacterial antagonism and host defence 212  
 Sargent MG, How do bacterial nuclei divide? 235  
 Schreurs WJ, *see* Harold FM  
 Seeliger H, IUMS archive material *IUMS News* 62  
 Sikyá B & Kyslík P, Changes of *Escherichia coli* populations in continuous culture limited by penicillin 25  
 Stanek G, Lyme disease and related disorders 231  
 Staples RC, Hoch HC & Epstein L, The development of infection structures by the rusts and other fungi 193  
 Sterkenburg A & Wouters JTM, Phenotypic variations in cell envelope proteins of *Klebsiella aerogenes* 148  
 Stewart-Tull DES, review of *Microbiology for the Allied Health Professions* by Delaat ANC 318  
 Stevenson RE, The American Type Culture Collection: sixty years of quality 367  
 Streiblová E & Hašek J, The cytoskeleton and control of the yeast cell cycle 139



- Takahashi M, Asano Y, Kamiya H & Baba K, Varicella vaccine: case studies 249
- Tanaka J & Hatano M, Human cytomegalovirus: cellular function(s) required for virus replication 353
- Tokuda H & Unemoto T, The Na<sup>+</sup>-motive respiratory chain of marine bacteria 65
- Trivedi A, Fantin DJ & Tustanoff ER, *Saccharomyces cerevisiae* as a model eukaryote for studies on mitochondriogenesis 10
- Trudinger PA, review of *The Sulphate-reducing Bacteria* by Postgate JR 28
- Tustanoff ER, see Trivedi A
- Unemoto T, see Tokuda H
- Ushiyama R, Viruses in fungi and eukaryotic algae: their possible origins and evolution 181
- van Kammen A, The replication of plant virus RNA 170
- Walker RW, review of *General Microbiology* edited by Boyd RF 76
- Williams HD, see Poole RK
- Willis AT, Pre-operative antimicrobial prophylaxis of infections 14
- Wimpenny JWT, Novel growth systems 53
- Wouters JTM, see Sterkenburg A
- Zavada J, review of *Fundamentals of Medical Virology* by Kucera LS & Myrvik QN 375
- Zuckerman AJ, Subunit, recombinant and synthetic hepatitis B vaccines 129
-

